



ES-03-054

March 22, 2004

To: Commissioner for Patents  
P.O.Box 1450  
Alexandria, VA 22313-1450

Fr: George O. Saile, Reg. No. 19,572  
28 Davis Avenue  
Poughkeepsie, N.Y. 12603

Subject: | Serial No. 10/763,305 01/23/04 |

Jin Ping Liu et al.

METHOD OF FORMING A RELAXED SEMI-  
CONDUCTOR BUFFER LAYER ON A SUBSTRATE  
WITH A LARGE LATTICE MISMATCH

#### INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation  
In An Application.

The following Patents and/or Publications are submitted to  
comply with the duty of disclosure under CFR 1.97-1.99 and  
37 CFR 1.56.

#### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being  
deposited with the United States Postal Service as first class  
mail in an envelope addressed to: Commissioner for Patents,  
P.O. Box 1450, Alexandria, VA 22313-1450, on March 25, 2004.

Stephen B. Ackerman, Reg.# 37761

Signature/Date

Stephen B. Ackerman 3/25/04

The following three U.S. Patents describe a graded SiGe buffer layer to spread lattice mismatch over a distance to minimize dislocations reaching the surface of the layer:

- 1) U.S. Patent 6,649,480 to Fitzgerald et al., "Method of Fabricating CMOS Inverter and Integrated Circuits Utilizing Strained Silicon Surface Channel MOSFETs."
- 2) U.S. Patent 6,583,015 to Fitzgerald et al., "Gate Technology for Strained Surface Channel and Strained Buried Channel MOSFET Devices."
- 3) U.S. Patent 6,646,322 to Fitzgerald, "Relaxed Silicon Germanium Platform for High Speed CMOS Electronics and High Speed Analog Circuits."

The following four U.S. Patents all disclose graded SiGe layers:

- 1) U.S. Patent 6,573,126 to Cheng et al., "Process for Producing Semiconductor Article Using Graded Epitaxial Growth."
- 2) U.S. Patent 6,515,335 to Christiansen et al., "Method for Fabrication of Relaxed SiGe Buffer Layers on Silicon-On-Insulators and Structures Containing the Same."
- 3) U.S. Patent 5,859,864 to Jewell, "Extended Wavelength Lasers having a Restricted Growth Surface and Graded Lattice Mismatch."

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4) U.S. Patent 5,821,577 to Crabbe' et al., "Graded Channel Field Effect Transistor."

U.S. Patent 6,649,492 to Chu et al., "Strained Si Based Layer Made by UHV-CVD, and Devices Therein," discloses varying Ge concentration in a SiGe layer.

Sincerely,

A handwritten signature in black ink, appearing to read 'Stephen B. Ackerman', written over the printed name.

Stephen B. Ackerman,  
Reg. No. 37761

Form PTO-1449

**INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION**

MAR 29 2004

(Use several sheets if necessary)

Drawing Number (Optional)

CS-03-054

Application Number

10/763,305

Applicant

Jin Ping Liu et al.

Filing Date

01/23/04

Group Art Unit

## U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILED DATE & APPROXIMATE
	6646322	11/11/03	Fitzgerald	257	531	7/16/01
	6649492	11/18/03	Chu et al.	438	478	2/11/02
	6649480	11/18/03	Fitzgerald et al.	438	285	6/19/01
	6583015	6/24/03	Fitzgerald et al.	438	287	8/6/01
	6573126	6/3/03	Cheng et al.	438	149	8/10/01
	6515335	2/4/03	Christiansen et al.	257	347	1/4/02
	5859864	1/12/99	Jewell	372	45	10/28/96
	5821577	10/13/98	Crabbe et al.	257	288	11/30/92

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Portion of Pages, Etc.)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.